

Country	Year	Population (millions)	Urban population (millions)	Urban population (%)	Population density (per sq km)	Urban population density (per sq km)	Population growth rate (%)	Urban population growth rate (%)	Population growth rate (%)	Urban population growth rate (%)	Population growth rate (%)	Urban population growth rate (%)
Algeria	1980	10.0	4.0	40.0	100	250	1.5	2.5	1.5	2.5	1.5	2.5
Algeria	1985	10.5	4.5	42.9	105	260	1.5	2.5	1.5	2.5	1.5	2.5
Algeria	1990	11.0	5.0	45.5	110	270	1.5	2.5	1.5	2.5	1.5	2.5
Algeria	1995	11.5	5.5	47.8	115	280	1.5	2.5	1.5	2.5	1.5	2.5
Algeria	2000	12.0	6.0	50.0	120	290	1.5	2.5	1.5	2.5	1.5	2.5
Algeria	2005	12.5	6.5	52.0	125	300	1.5	2.5	1.5	2.5	1.5	2.5
Algeria	2010	13.0	7.0	53.8	130	310	1.5	2.5	1.5	2.5	1.5	2.5
Algeria	2015	13.5	7.5	55.6	135	320	1.5	2.5	1.5	2.5	1.5	2.5
Algeria	2020	14.0	8.0	57.1	140	330	1.5	2.5	1.5	2.5	1.5	2.5
Algeria	2025	14.5	8.5	58.6	145	340	1.5	2.5	1.5	2.5	1.5	2.5
Algeria	2030	15.0	9.0	60.0	150	350	1.5	2.5	1.5	2.5	1.5	2.5
Algeria	2035	15.5	9.5	61.3	155	360	1.5	2.5	1.5	2.5	1.5	2.5
Algeria	2040	16.0	10.0	62.5	160	370	1.5	2.5	1.5	2.5	1.5	2.5
Algeria	2045	16.5	10.5	63.6	165	380	1.5	2.5	1.5	2.5	1.5	2.5
Algeria	2050	17.0	11.0	64.7	170	390	1.5	2.5	1.5	2.5	1.5	2.5
Algeria	2055	17.5	11.5	65.7	175	400	1.5	2.5	1.5	2.5	1.5	2.5
Algeria	2060	18.0	12.0	66.7	180	410	1.5	2.5	1.5	2.5	1.5	2.5
Algeria	2065	18.5	12.5	67.6	185	420	1.5	2.5	1.5	2.5	1.5	2.5
Algeria	2070	19.0	13.0	68.4	190	430	1.5	2.5	1.5	2.5	1.5	2.5
Algeria	2075	19.5	13.5	69.2	195	440	1.5	2.5	1.5	2.5	1.5	2.5
Algeria	2080	20.0	14.0	70.0	200	450	1.5	2.5	1.5	2.5	1.5	2.5
Algeria	2085	20.5	14.5	70.7	205	460	1.5	2.5	1.5	2.5	1.5	2.5
Algeria	2090	21.0	15.0	71.4	210	470	1.5	2.5	1.5	2.5	1.5	2.5
Algeria	2095	21.5	15.5	72.1	215	480	1.5	2.5	1.5	2.5	1.5	2.5
Algeria	2100	22.0	16.0	72.7	220	490	1.5	2.5	1.5	2.5	1.5	2.5
Algeria	2105	22.5	16.5	73.3	225	500	1.5	2.5	1.5	2.5	1.5	2.5
Algeria	2110	23.0	17.0	73.9	230	510	1.5	2.5	1.5	2.5	1.5	2.5
Algeria	2115	23.5	17.5	74.5	235	520	1.5	2.5	1.5	2.5	1.5	2.5
Algeria	2120	24.0	18.0	75.0	240	530	1.5	2.5	1.5	2.5	1.5	2.5
Algeria	2125	24.5	18.5	75.5	245	540	1.5	2.5	1.5	2.5	1.5	2.5
Algeria	2130	25.0	19.0	76.0	250	550	1.5	2.5	1.5	2.5	1.5	

- a

claim

a

claim 1

claim!

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- a) receiving at the customer terminal a multiplicity of encrypted data frames
- b) receiving at the customer terminal a seed value for key generation
- c) passing the said seed value for key generation to a secure module located at the customer terminal
- d) generating in the secure module using the seed value keys for the decryption of data frames;
- e) decrypting the data frames using the said keys;
- f) passing to the said secure module a control message received from a source remote from the customer terminal;

g) in response to the said control message controlling the availability of keys generated using the said seed value and thereby controlling access by the user of the customer terminal to data received at the customer terminal.

5 12. A data communications system comprising

- a) a remote data source arranged to output a plurality of frames;
- b) encryption means for encrypting the plurality of frames with different respective keys;
- c) a communications channel arranged to distribute multiple copies of the
- 10 encrypted data frames ;
- d) a multiplicity of customer terminals arranged to receive from the communications channel respective copies of the encrypted data frames;
- e) a key generator located at a customer terminal and programmed to generate from a seed value keys for use in decrypting data frames:
- 15 f) key control means connected to the key generator, the key control means comprising:
  - an interface for receiving control messages; and
  - control means responsive to the said control messages and arranged to control the availability to the user of keys generated from the seed value;
  - 20 and
  - g) decryption means connected to the key generator and arranged to decrypt the data frames received at the customer terminal from the communications channel.

25 13. A data communications system according to claim 12, in which the communications channel is a packet-switched data network.

14. A customer terminal for use in a method according to <sup>claim 1</sup> ~~any one of claims 1 to 11~~, the customer terminal comprising:

- 30 a) a data interface for connection to a data communications channel;
- b) a key generator programmed to generate from a seed value keys for use in decrypting data frames;
- c) key control means connected to the key generator, the key control means comprising:

an interface for receiving control messages; and

control means responsive to the said control messages and arranged to control the availability to the user of keys generated from the seed value; and

- 5 d) decryption means connected to the data interface and to the key generator and arranged to decrypt data frames received via the data interface.

15. A data server for use in method according to ~~any one of claims 1 to 10~~, the data server comprising:

- 10 a) a data interface for connection to a data communications channel;  
b) means for outputting encrypted data frames via the data interface onto the communications channel for receipt by a multiplicity of customer terminals;  
c) means for outputting control messages onto a data communications channel for controlling the operation of key generators at customer terminals.

- 15 16. A method according to ~~any one of claims 1 to 11~~, including generating keys from the seed value by iterated operations on the seed value by selected ones of a plurality of predetermined functions.

- 20 17. A method of decrypting data frames characterised by generating a decryption key from a seed value by iterated operations on a seed value by selected ones of a plurality of predetermined functions.

- 25 18. A method according to claim 16 ~~or 17~~, in which the selection of the said predetermined functions is determined by the value of a frame identity number.

- 30 19. A method according to ~~any one of claims 16 to 18~~, in which the predetermined functions are computationally symmetric.

20. A method according to claim 19 in which the said functions are left-shifted binary XOR and right-shifted binary XOR.

claim 1

21. A method according to ~~any one of claims 1 to 11 and 16 to 20~~, including applying different characteristic variations to data decrypted at different respective customer terminals.

claim 1

22. A method or system according to ~~any one of the preceding claims~~, including a plurality of remote data sources, each outputting a respective plurality of frames.

23. A method or system according to claim 22, in which the customer terminal receives a primary seed value common to different respective data streams from the plurality of data sources, and derives from the common primary key a plurality of different respective secondary seed values for decrypting frames from different respective data sources.

24. A method or system according to claim 23, in which data received from different data sources includes different respective source identity values, and the respective secondary seed value is generated from the primary seed value by modifying the primary seed value with the source identity value.

claim 1

25. A method according to ~~any one of claims 1 to 11 and 16 to 21~~, in which each data frame includes a frame type field.

26. A method according to claim 25, including storing a receipt including data from the frame type field.

27. A method of distributing digitally encoded data, comprising

- a) dividing said data into a multiplicity of frames,
- b) encrypting said frames,
- c) marking frames with a frame type field
- d) communicating said data frames to a user
- d) communicating a seed value for key generation to the user
- e) decoding the data frames at the users using keys derived from the seed value
- f) generating and storing receipts for said data frames, said frames including frame type data from the frame type field.

28. A method according to claim 27, further comprising communicating receipts to a third party, and obtaining from the said third party a payment for receipt of data of a specified type.